

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Withdrawn) A device for facilitating hemostasis of a puncture in the wall of a blood vessel, the device comprising:

an introducer for compressing an absorbable sponge pledget for delivery into a patient to seal the puncture, the introducer including a staging chamber with a first diameter configured to receive the [absorbable] sponge pledget, a delivery changer with a second diameter smaller than then first diameter, and a tapered section between the staging chamber and the delivery chamber for compressing the pledget; and

a plunger insertable into the introducer for ejection of the pledget from the delivery chamber into a patient to seal the puncture in the blood vessel wall.

2. (Withdrawn) The device according to claim 1, wherein the plunger includes a through bore for threading a guidewire through the plunger to accurately place the [absorbable] sponge pledget at an exterior of the puncture in the blood vessel.

3. (Withdrawn) The device according to claim 1, wherein the staging chamber has a substantially constant diameter and the delivery chamber has a substantially constant diameter.

4. (Withdrawn) The device according to claim 3, wherein the staging chamber has a length shorter than a length of the delivery chamber.

5. (Withdrawn) The device according to claim 1, wherein the proximal end of the introducer has a fitting for connection to a syringe for hydration of the pledget.
6. (Withdrawn) The device according to claim 1, wherein a distal end of the introducer has a smooth rounded outer surface for insertion into tissue of the patient which is configured to resist entering the puncture.
7. (Withdrawn) The device according to claim 1, further comprising a depth indicating member positioned on an exterior of the introducer and movable longitudinally with respect to the introducer.
8. (Withdrawn) The device according to claim 1, further comprising a kneading feature within a lumen of the introducer for compressing, expanding, or changing a shape of the [absorbable] sponge pledget passing through the lumen.
9. (Withdrawn) The device according to claim 8, wherein the kneading feature is at least one enlarged diameter section of the lumen.
- 10-14 (Cancelled)
15. (Previously Presented) A method for facilitating hemostasis of a puncture in the wall of a blood vessel, the method comprising:

establishing a depth of a blood vessel puncture of a patient;

loading an introducer with a sponge pledget by hydrating and compressing the pledget, the introducer having a lumen including a staging chamber and a delivery chamber;

loading the introducer over a guidewire positioned in the blood vessel by inserting the guidewire through the hydrated and compressed pledget; and

ejecting the pledget adjacent the blood vessel puncture to facilitate hemostasis while maintaining the guidewire in place.

16. (Previously Amended) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 15, wherein establishing a depth of a blood vessel is performed by introducing a tract dilator into a tissue tract until a distal end of the tract dilator abuts an exterior of the blood vessel wall.

17. (Original) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 16, wherein a depth of the tract is indicated by a depth indicating member.

18. (Previously Amended) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 15, wherein establishing a depth of a blood vessel is performed by introducing the introducer over the guidewire and into a tissue tract until a distal end of the introducer abuts an exterior wall of the blood vessel.

19. (Original) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 15, wherein the pledget is partially ejected, compression is applied until hemostasis begins, and the pledget is then fully ejected.

20. (Withdrawn) The device according to claim 1 further comprising an absorbable sponge pledget rolled from a sheet of sponge and positioned in the introducer.
21. (Withdrawn) The device according to claim 1, wherein the introducer includes a vent at a distal end of facilitate moving the pledget from the staging chamber to the delivery chamber by fluid pressure.
22. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 15, wherein the sponge pledget is rolled from a sheet of absorbable sponge prior to loading into the introducer.
23. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 15, wherein loading the introducer includes injecting fluid into the introducer to hydrate and compress the pledget.
24. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 23, wherein the introducer is provided with a distal vent for facilitating loading of the introducer.
25. (Previously Presented) A method for facilitating hemostasis of a puncture in the wall of a blood vessel, the method comprising:
loading an introducer with a pledget of sponge;

loading the introducer over a guidewire positioned in the blood vessel by inserting the guidewire through the loaded pledget;

advancing the introducer with the loaded pledget through a tissue tract extending from a patient's skin to the puncture in the wall of the blood vessel without advancing the pledget relative to the introducer; and

ejecting the pledget adjacent the puncture in the wall of the blood vessel to facilitate hemostasis.

26. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 25, wherein loading the introducer involves hydrating and loading the pledget into the introducer.

27. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 25, wherein loading the introducer involves compressing and loading the pledget into the introducer.

28. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 25, wherein loading the introducer over the guidewire involves piercing the pledget with the guidewire.

29. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 25, further comprising establishing a depth of the puncture in the wall of the blood vessel.

30. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 29, wherein establishing a depth of a puncture is performed by introducing a tract dilator into a tissue tract until a distal end of the tract dilator abuts an exterior of the blood vessel wall.

31. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 29, wherein establishing a depth of a puncture is performed by introducing the introducer over the guidewire and into a tissue tract until a distal end of the introducer abuts an exterior wall of the blood vessel.

32. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 25, wherein the ejected pledget is positioned against an outer wall of the blood vessel.

33. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 25, wherein the ejected pledget expands upon delivery to fill the available space and provide localized compression.

34. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 25, wherein the ejected pledget expands more quickly when wetted than a pledget of dry sponge material.

35. (Previously Presented) A method for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel, the method comprising:

loading an introducer with a pledget of sponge, the introducer having a lumen including a staging chamber and a delivery chamber;

loading the introducer over a guidewire positioned in the blood vessel by inserting the guidewire through the loaded pledget; and

advancing the introducer through the skin and subcutaneous tissue overlying the puncture in the wall of the blood vessel.

36. (Previously Presented) The method for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel according to claim 35, wherein loading the introducer involves hydrating and loading the pledget into the introducer.

37. (Previously Presented) The method for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel according to claim 35, wherein loading the introducer involves compressing and loading the pledget into the introducer.

38. (Previously Presented) The method for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel according to claim 35, wherein loading the introducer over the guidewire involves piercing the pledget with the guidewire.

39. (Previously Presented) The method for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel according to claim 35, further comprising establishing a depth of the puncture in the wall of the blood vessel.

40. (Previously Presented) The method for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel according to claim 39, wherein establishing a depth of the puncture is performed by introducing a tract dilator into the subcutaneous tissue until a distal end of the tract dilator abuts an exterior of the blood vessel wall.

41. (Previously Presented) The method for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel according to claim 39, wherein establishing a depth of the puncture is performed by introducing the introducer over the guidewire and into the subcutaneous tissue until a distal end of the introducer abuts an exterior wall of the blood vessel.

42. (Withdrawn) A device for facilitating hemostasis of a puncture in the wall of a blood vessel, the device comprising:

an introducer for hydrating a sponge pledget for delivery into a patient to seal the puncture, the introducer including a staging chamber with a first diameter configured to receive the sponge pledget, a delivery chamber with a second diameter smaller than the first diameter, and a tapered section between the staging chamber and the delivery chamber for compressing the pledget;

a plunger insertable into the introducer for ejection of the pledget from the delivery chamber into a patient to seal the puncture in the blood vessel wall.

43. (Withdrawn) A device for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel, the device comprising: an introducer for compressing a sponge pledget for delivery into a patient to seal the puncture, the introducer including a staging chamber with a first diameter configured to receive the sponge pledget, a delivery chamber with a second diameter smaller than the first diameter, and a tapered section between the staging chamber and the delivery chamber for compressing the pledget;

a plunger insertable into the introducer for ejection of the pledget from the delivery chamber into a patient to seal the puncture in the blood vessel wall.

44. (Withdrawn) The device according to claim 43, wherein the plunger includes a through bore for threading a guidewire through the plunger to accurately place the sponge pledget at an exterior of the puncture in the blood vessel.

45. (Withdrawn) The device according to claim 43, wherein the staging chamber has a substantially constant diameter and the delivery chamber has a substantially constant diameter.

46. (Withdrawn) The device according to claim 43, wherein the staging chamber has a length shorter than a length of the delivery chamber.

47. (Withdrawn) The device according to claim 43, wherein a proximal end of the introducer has a fitting for connection to a syringe for hydration of the pledget.

48. (Withdrawn) The device according to claim 43, wherein a distal end of the introducer has a smooth rounded outer surface for insertion into tissue of the patient which is configured to resist entering the puncture.

49. (Withdrawn) The device according to claim 43, further comprising a depth indicating member positioned on an exterior of the introducer and movable longitudinally with respect to the introducer.

50. (Withdrawn) The device according to claim 43, further comprising a kneading feature within a lumen of the introducer for compressing, expanding, or changing a shape of the sponge pledget passing through the lumen.

51. (Withdrawn) The device according to claim 43, wherein the kneading feature is at least one enlarged diameter section of the lumen.

52. (Withdrawn) A device for advancing a pledget of sponge through the skin and subcutaneous tissue overlying a puncture in the wall of a blood vessel, the device comprising:
an introducer for hydrating a sponge pledget for delivery into a patient to seal the puncture, the introducer including a staging chamber with a first diameter configured to receive the sponge pledget, a delivery chamber with a second diameter smaller than the first diameter, and a tapered section between the staging chamber and the delivery chamber for compressing the pledget;

a plunger insertable into the introducer for ejection of the pledget from the delivery chamber into a patient to seal the puncture in the blood vessel wall.

53. (Withdrawn) The device according to claim 52, wherein the plunger includes a through bore for threading a guidewire through the plunger to accurately place the sponge pledget at an exterior of the puncture in the blood vessel.

54. (Withdrawn) The device according to claim 52, wherein the staging chamber has a substantially constant diameter and the delivery chamber has a substantially constant diameter.

55. (Withdrawn) The device according to claim 52, wherein the staging chamber has a length shorter than a length of the delivery chamber.

56. (Withdrawn) The device according to claim 52, wherein a proximal end of the introducer has a fitting for connection to a syringe for hydration of the pledget.

57. (Withdrawn) The device according to claim 52, wherein a distal end of the introducer has a smooth rounded outer surface for insertion into tissue of the patient which is configured to resist entering the puncture.

58. (Withdrawn) The device according to claim 52, further comprising a depth indicating member positioned on an exterior of the introducer and movable longitudinally with respect to the introducer.

59. (Withdrawn) The device according to claim 52, further comprising a kneading feature within a lumen of the introducer for compressing, expanding, or changing a shape of the sponge pledget passing through the lumen.

60. (Withdrawn) The device according to claim 52, wherein the kneading feature is at least one enlarged diameter section of the lumen.

61. (Previously Presented) A method for facilitating hemostasis of a puncture in the wall of a blood vessel, the method comprising:

loading an introducer with a pledget of a hemostatic material, wherein the loaded pledget is located in a distal end of the introducer;

advancing the introducer with the loaded pledget through a tissue tract extending from a patient's skin to the puncture in the wall of the blood vessel without advancing the pledget relative to the introducer;

locating an exterior of the blood vessel; and

ejecting the pledget adjacent the exterior of the blood vessel.

62. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 61, wherein the exterior of the blood vessel is located by tactile feedback upon contact with the exterior of the blood vessel.

63. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 61, wherein the pledget of hemostatic material is absorbed within the body of the patient.

64. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 61, further comprising loading the introducer over a guidewire by inserting the guidewire through the loaded pledget.

65. (Previously Presented) The method for facilitating hemostasis of a puncture in the wall of a blood vessel according to claim 61, wherein ejecting the pledget is performed by withdrawing the introducer.

66. (Previously Presented) A method for facilitating hemostasis of a puncture at an exterior surface of a blood vessel wall, comprising:

advancing an introducer loaded with a pledget and a pusher through a tissue tract extending from a patient's skin to the exterior surface without advancing the pledget relative to the introducer and the pusher;

holding the pusher stationary relative to the introducer at said exterior surface;

withdrawing said introducer proximally to expose a distal end of the pledget; and

applying a slight forward pressure on said pusher,

whereby the pledget is simultaneously partially exposed and compressed against said exterior surface of the blood vessel puncture.

67. (Previously Presented) The method of claim 66 wherein said withdrawing comprises exposing approximately seventy-five percent (75%) of the pledget.

68. (Previously Presented) The method of claim 66 wherein said withdrawing comprises retreating said introducer to an identified marker on said introducer.
69. (Previously Presented) The method of claim 66 wherein said withdrawing further comprises:
withdrawing a guidewire from said pusher and said introducer.
70. (Previously Presented) The method of claim 66 whereby said inserting further comprises mating a first fitting of said pusher with a second fitting of said introducer.
71. (Previously Presented) The method of claim 66 further comprising:
maintaining a slight forward pressure on said pledget with said pusher; and
withdrawing said introducer.